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SYNNESTVEDT & LECHNER, LLP
1101 MARKET STREET
SUITE 2600
PHILADELPHIA, PA 19107-2950

| EXAMINER | |
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| LOO, JUVENA W | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/762,022 | ROY, ANINDYA | |
| | Examiner | Art Unit | |
| | JUVENA LOO | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *1-4 and 13-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-12 and 15-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 6, 16, and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, claims 6, 16, and 17 state that the node ascertains and selects one of the alternative paths for rerouting.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 16 and 18, it is not clear how $R_{ACR}$ can be less than itself as stated in the claimed "wherein $R_{ACR}$ is less than $R_{ACR}$".

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Hu et al. (US 2003/0016808 A1).

Hu et al. discloses a method to dynamic adaptation to congestion in a connection-oriented network comprising the following features:

Regarding claim 5, a method for performing congestion control in a connection-oriented packet switching network, the method comprising:

*receiving notification of traffic congestion in a first path connecting a source node and a destination node* (Hu: see "When the path…mis-behaved connection" in page 3, section 0029);

*determining whether an alternative path exists with an available cell rate that is greater than an available cell rate for the first path, the available cell rate for the first path measured when the traffic congestion in the first path is eliminated through cell rate control* (Hu: see "The policy database…out of congestion" in page 3, section 0032).

*selecting the alternative path to route traffic between the source node and the destination node, if the alternative paths exist* (Hu: see "The adaptation method…before cold rerouting" in page 2, section 0022).

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 6, 10, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Shirai et al (5,912,877).

Shirai et al. discloses a data exchange and a data exchanging method comprising the features:

Regarding claim 6, *a method for performing congestion control in a node in a connection-oriented packet-switching network* (Shirai: see Figure 3 and "The present invention relates…congestion occurrence time" in Abstract), *the method comprising*:

*receiving notification of traffic congestion at a node located in a first path connecting a source node and a destination node* (Shirai: see Figure 22 and "(i)

Process in which…when a frame discard is detected" in column 22, line 49 through column 23, line 39 – transmitting node 17a detects congestion condition in the transit trunk and report congestion status to terminal 11a), *wherein the first path is a non-real time connection with a Minimum Cell Rate (MCR) of $R_{ACR}$ and a Peak Cell Rate (PCR) of $R_{PCR}$* (Shirai: see Figure 19 and "(b) CIR value variable…terminal trunk 12 can be effectively used" in column 21, line 31 through column 22, line 48; see also "The CIR (Committed Information Rate)…guarantees at its normal time" in column 14, lines 7 – 9);

the node *ascertaining whether M alternative paths exist with available resources able to satisfy the $R_{ACR}$ for transferring traffic between the source node and the destination node, wherein M is equal to or greater than 1* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup…detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process…to the backup transit trunk 14" in column 24, line 3 through column 25, line 15); *and*

*the node selecting one of the M alternative paths to reroute the traffic between the source node and the destination node the if the M alternative paths exist* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup…detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column

19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process…to the backup transit trunk 14" in column 24, line 3 through column 25, line 15).

Regarding claim 10, *wherein selecting one of the M alternative paths to reroute the traffic, comprises selecting a first one of the M alternative paths found to satisfy the* $R_{ACR}$, *if there is more than one of the M alternative paths* (Shirai: see Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8).

Regarding claim 15, *one or more computer-readable media having stored thereon computer executable instructions that, when executed by one or more processors, causes a computer to*:

*receive notification of traffic congestion at a node located in a first path connecting a source node and a destination node* (Shirai: see Figure 22 and "(i) Process in which…when a frame discard is detected" in column 22, line 49 through column 23, line 39 – transmitting node 17a detects congestion condition in the transit trunk and report congestion status to terminal 11a), *wherein the first path is a non-real time connection with a Minimum Cell Rate (*$R_{MCR}$*) and Peak Cell Rate (PCR) of* $R_{PCR}$ (Shirai: see Figure 19 and "(b) CIR value variable…terminal trunk 12 can be effectively used" in column 21, line 31 through column 22, line 48; see also "The CIR (Committed Information Rate)…guarantees at its normal time" in column 14, lines 7 – 9);

*ascertain whether M alternative paths exist with available resources able to satisfy the $R_{PCR}$ for transferring traffic between the source node and the destination node, wherein M is equal to or greater than 1* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup...detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate...via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process...to the backup transit trunk 14" in column 24, line 3 through column 25, line 15); *and*

*select one of the M alternative paths to reroute the traffic between the source node and the destination node the if the M alternative paths exist* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup...detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate...via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process...to the backup transit trunk 14" in column 24, line 3 through column 25, line 15).

Regarding claim 17, *a system* (Shirai: see Figure 3 and "The present invention relates...congestion occurrence time" in Abstract), *comprising*:

*means for receiving notification of traffic congestion at a node located in a first path connecting a source node and a destination node* (Shirai: see Figure 22 and "(i) Process in which...when a frame discard is detected" in column 22, line 49 through

column 23, line 39 – transmitting node 17a detects congestion condition in the transit trunk and report congestion status to terminal 11a), *wherein the first path is a non-real time connection with a Minimum Cell Rate ($R_{MCR}$) and Peak Cell Rate (PCR) of $R_{PCR}$* (Shirai: see Figure 19 and "(b) CIR value variable…terminal trunk 12 can be effectively used" in column 21, line 31 through column 22, line 48; see also "The CIR (Committed Information Rate)…guarantees at its normal time" in column 14, lines 7 – 9);

*means at the node for ascertaining whether M alternative paths exist with available resources able to satisfy the $R_{ACR}$ for transferring traffic between the source node and the destination node, wherein M is equal to or greater than 1* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup…detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process…to the backup transit trunk 14" in column 24, line 3 through column 25, line 15); *and*

*means at the node for selecting one of the M alternative paths to reroute the traffic between the source node and the destination node the if the M alternative paths exist* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup…detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28

and "(j) Alternate transfer process…to the backup transit trunk 14" in column 24, line 3 through column 25, line 15).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 7 – 9, and 11 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirai et al. (5,912,877) in view of Rabie et al. (US 2005/0160171 A1).

Rabie discloses a method for bandwidth management in data communication system comprising the following features:

Regarding claim 7, *wherein selecting one of the M alternative paths to reroute the traffic, comprises selecting one of the M alternative paths which best satisfies the* $R_{ACR}$ *in accordance with one or more rules, if there are more than one of the M alternative paths* (Rabie: see "Steps in the selection…selection policy" in page 5, column 0060 and "According to the Best…is selected" in page 5, section 0064).

Regarding claim 8, *wherein selecting one of the M alternative paths to reroute the traffic, comprises selecting one of the M alternative paths with a maximum amount unreserved resources to satisfy the $R_{ACR}$, if there is more than one of the M alternative paths* (Rabie: see "Steps in the selection…selection policy" in page 5, column 0060 and "According to the Maximum Unreserved…is selected" in page 5, section 0062).

Regarding claim 9, *wherein selecting one of the M alternative paths to reroute the traffic, comprises selecting one of the M alternative paths with a least amount unreserved resources but enough unreserved resources to support the $R_{ACR}$, if there is more than one of the M alternative paths* (Rabie: see "Steps in the selection…selection policy" in page 5, column 0060 and "According to the Mixing Long…is selected" in page 6, section 0067).

Regarding claim 11, *wherein selecting one of the M alternative paths to reroute the traffic, comprises selecting one of the M alternative paths that satisfies the $R_{ACR}$ according to one or more custom criteria, if there is more than one of the M alternative paths* (Rabie: see "Steps in the selection…selection policy" in page 5, column 0060 and "According to the Least Number…is selected" in page 6, section 0066).

Regarding claim 12, *wherein selecting one of the M alternative paths to reroute the traffic, comprises selecting one of the M alternative paths that satisfies the $R_{ACR}$ according to one or more fuzzy rules, if there is more than one of the M alternative*

*paths* (Rabie: see "Steps in the selection…selection policy" in page 5, column 0060 and "According to the Median Unreserved…is selected" in page 6, section 0072).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Shirai by using the features, as taught by Rabie et al., in order to obtain benefits of more than one admission policy (Rabie: see "multiple admission...policy" in page 7, section 0080).

11. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirai et al. (5,912,877) in view of Roy (US 6,636,487 B1).

Regarding claim 16, *a method for performing congestion control in a node in a connection-oriented packet-switching network* (Shirai: see "The present invention relates...at a congestion occurrence time" in Abstract), *the method comprising*:

*receiving notification of traffic congestion at a node located in a first path connecting a source node and a destination node* (Shirai: see Figure 22 and "(i) Process in which…when a frame discard is detected" in column 22, line 49 through column 23, line 39 – transmitting node 17a detects congestion condition in the transit trunk and report congestion status to terminal 11a), *wherein the first path is a non-real time connection with a Minimum Cell Rate ($R_{MCR}$) and Peak Cell Rate (PCR) of $R_{PCR}$*

(Shirai: see Figure 19 and "(b) CIR value variable…terminal trunk 12 can be effectively used" in column 21, line 31 through column 22, line 48; see also "The CIR (Committed Information Rate)…guarantees at its normal time" in column 14, lines 7 – 9);

*the node ascertaining whether M alternative paths exist with available resources able to satisfy the $R_{ACR}$ for transferring traffic between the source node and the destination node, wherein M is equal to or greater than 1* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup...detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process…to the backup transit trunk 14" in column 24, line 3 through column 25, line 15);

*the node selecting one of the M alternative paths to reroute the traffic between the source node and the destination node the if the M alternative paths exist* (Shirai: see Figure 6 and "(d) Alternate transfer process to backup…detoured to the backup transit trunk 14" in column 15, line 46 through column 16, line 31; see also Figure 14 and "(f2) Second mode in which stepwise alternate…via the backup transit trunk 14b" in column 19, line 46 through column 20, line 8; see also Figures 27 and 28 and "(j) Alternate transfer process…to the backup transit trunk 14" in column 24, line 3 through column 25, line 15).

However, Shirai does not explicitly disclose the features:

*the node ascertaining whether X alternative paths exist with available resources able to satisfy a reduced Available Cell Rate (ACR) of $R_{ACR}$, if M alternative paths do not exist, wherein $R_{ACR}$ is less than the $R_{ACR}$, but is greater than a new ACR for the first path if rate control is instituted to eliminate the traffic congestion; and*

*the node selecting one of the X alternative paths to reroute the traffic between the source node and the destination node the if the X alternative paths exist.*

*Roy discloses an apparatus and method comprising the features:*

*the node ascertaining whether X alternative paths exist with available resources able to satisfy a reduced Available Cell Rate (ACR) of $R_{ACR}$, if M alternative paths do not exist, wherein $R_{ACR}$ is less than the $R_{ACR}$, but is greater than a new ACR for the first path if rate control is instituted to eliminate the traffic congestion* (Roy: see Figure 4, 404, 405, 406, 407, 408, 409, 410, 411, and 412; see also "The controller 201…bandwidth availability" in column 8, line 60 through column 10, line 40; see also "The controller 201…bandwidth availability" in column 8, line 60 through column 10, line 40 and "In step 403…the like" in column 12, lines 30 through column 12, line 56); *and*

*the node selecting one of the X alternative paths to reroute the traffic between the source node and the destination node the if the X alternative paths exist* (Roy: see Figure 4, 408 and 409).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Shirai et al. by using the features, as taught by Roy, in order to allow continuous data flow (Roy: see Abstract).

Regarding claim 18, *further comprising*

*means for ascertaining whether X alternative paths exist with available resources able to satisfy a reduced Available Cell Rate (ACR) of $R_{ACR}$, if M alternative paths do not exist, wherein $R_{ACR}$ is less than the $R_{ACR}$, but is greater than a new ACR for the first path if rate control is instituted to eliminate the traffic congestion* (Roy: see Figure 4, 404, 405, 406, 407, 408, 409, 410, 411, and 412; see also "The controller 201…bandwidth availability" in column 8, line 60 through column 10, line 40 and "In step 403…the like" in column 12, lines 30 through column 12, line 56); *and*

*means for selecting one of the X alternative paths to reroute the traffic between the source node and the destination node the if the X alternative paths exist* (Roy: see Figure 4, 408 and 409).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Shirai et al. by using the features, as taught by Roy, in order to allow continuous data flow (Roy: see Abstract).

***Response to Arguments***

12. Applicant's arguments with respect to claims 6 - 18 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 5, applicant argued that "Hu discloses a completely different rerouting policy than the one claimed in claim 5. Particularly, it is based on holding priority, rather than available cell rate".

In reply, the examiner respectfully disagrees with the argument. The cited reference from Hu (section 32) stated that connections that have low holding priority may be considered to be selected first. Hu further states that the total reserved bandwidth of the candidate connections is greater that the amount of bandwidth to be freed up so that particular trunk is brought out of congestion. In other words, Hu will first considering using low holding priority connections but the final selected candidate connections, whether it has low holding priority or not, will have enough bandwidth to resolve the congestion issue.

***Conclusion***

**13. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUVENA LOO whose telephone number is (571)270-1974. The examiner can normally be reached on Monday - Friday: 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUVENA LOO/
Examiner
Art Unit 2616
July 17, 2008

/Kwang B. Yao/

Supervisory Patent Examiner, Art Unit 2616